CLAIMS

What is claimed is:

5        1. A method for dynamically initializing a view for a streaming database system, comprising:

accessing at least one stream of events;

materializing a view from said stream, wherein said view is dynamically defined from said stream of events from said streaming database system;

10        processing a plurality of view snapshots from said view;

generating an initialized view in accordance with said view snapshots, wherein said initialized view incorporates new events of said stream.

2. The method as recited in Claim 1 wherein said initialized view comprises a

15  plurality of row data structures.

3. The method of Claim 1, wherein said view is a stateful view resulting from a stateful stream, said stateful view having a bounded number of rows.

20        4. The method of Claim 3, wherein each of said view snapshots of said stateful view comprise a state of said stateful view including events existent at said materializing of said stateful view and events accessed after said materializing of said stateful view at a particular time.

25        5. The method of Claim 2, wherein said view is a stateless view resulting from a stateless stream, said stateless view having an unbounded number of rows.

6. The method of Claim 5, wherein each of said view snapshots of said stateless view comprise a state of said stateless view including events existent at said materializing of said stateless view, including a last event processed during said materializing of said stateless view.

7. The method of Claim 1, further comprising:

processing a plurality of view snapshots by maintaining a sequence of a plurality of preceding current view snapshots.

8. The method of Claim 7, further comprising:

applying a batch set of events to said processing of said view snapshots, wherein each event of said batch set has a corresponding one of said view snapshots.

10. The method of Claim 1, wherein said generating of said initialized view is configured to accomplish a recovery of a view state.

11. The method of Claim 1, wherein said generating of said initialized view is configured to accomplish a re-enabling of a view after a disabling of a view.

12. The method of Claim 1, wherein said generating of said initialized view is configured to accomplish a load balancing of a view maintenance process.

13. A system for dynamically initializing a view for a streaming database system, comprising:

a view engine for accessing a stream of events;

said view engine for materializing an initial view from said stream, wherein said initial view comprises a dynamically defined view of said stream of events from said streaming database system;

said view engine configured for processing a plurality of recent view snapshots from said initial view;

said view engine configured for generating a view state derived from each of said recent view snapshots; and

said view engine further configured for maintaining an updated view in accordance with said view state, wherein said updated view incorporates new events of said stream.

14. The system of Claim 13, wherein said updated view comprises a plurality of row data structures.

15. The system of Claim 13, wherein said initial view is a stateful view resulting from a stateful stream, said stateful view having a bounded number of rows.

16. The system of Claim 15, wherein each of said view snapshots of said stateful view comprise a state of said initial view including events existent at said materializing of said initial view and events accessed after said materializing of said initial view at a particular time.

17. The system of Claim 14, wherein said initial view is a stateless view resulting from a stateless stream, said stateless view having an unbounded number of rows.

18. The system of Claim 17, wherein each of said view snapshots of said stateless view comprise a state of said initial view including events existent at said materializing of said initial view, including a last event processed during said materializing of said initial view.

19. The system of Claim 13, wherein said view engine is further configured for processing a plurality of recent view snapshots by maintaining a sequence of a plurality of preceding current view snapshots.

5      20. The system of Claim 19, wherein said view engine is further configured for applying a batch set of events to said processing of said recent view snapshots, wherein each event of said batch set has a corresponding one of said recent view snapshots.

21. The system of Claim 13, wherein said initializing of said updated view is

10     configured to accomplish a recovery of a view state.

22. The system of Claim 13, wherein said initializing of said updated view is configured to accomplish a re-enabling of a view after a disabling of a view.

15     23. The system of Claim 13, wherein said initializing of said updated view is configured to accomplish a load balancing of a view maintenance process.

24. In a computer system for monitoring business activity, a computer usable medium having a computer readable program code embodied therein for causing said computer system

20     to perform a method for dynamically initializing a view for a streaming database system, said method comprising:

accessing at least one stream of events;

materializing a view from said stream, wherein said view is dynamically defined from said stream of events from said streaming database system;

25     processing a plurality of view snapshots from said view;

generating an initialized view in accordance with said view snapshots, wherein said initialized view incorporates new events of said stream.

25. The computer usable medium of Claim 24 wherein said initialized view is a re-initialization of a previously initialized view.

26. The computer usable medium of Claim 24, wherein said view is a stateful view resulting from a stateful stream, said stateful view having a bounded number of rows.

27. The computer usable medium of Claim 26, wherein each of said view snapshots of said stateful view comprise a state of said stateful view including events existent at said materializing of said stateful view and events accessed after said materializing of said stateful view at a particular time.

28. The computer usable medium of Claim 24, wherein said view is a stateless view resulting from a stateless stream, said stateless view having an unbounded number of rows.

29. The computer usable medium of Claim 28, wherein each of said view snapshots of said stateless view comprise a state of said stateless view including events existent at said materializing of said stateless view, including a last event processed during said materializing of said stateless view.

30. The computer usable medium of Claim 24, further comprising:

processing a plurality of view snapshots by maintaining a sequence of a plurality of preceding current view snapshots.

31. The computer usable medium of Claim 30, further comprising:

applying a batch set of events to said processing of said view snapshots, wherein each event of said batch set has a corresponding one of said view snapshots.

32. The computer usable medium of Claim 24, wherein said generating of said initialized view is configured to accomplish a recovery of a view state.

5        33. The computer usable medium of Claim 24, wherein said generating of said initialized view is configured to accomplish a re-enabling of a view after a disabling of a view.

34. The computer usable medium of Claim 24, wherein said generating of said initialized view is configured to accomplish a load balancing of a view maintenance process.

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